

What is claimed is:

1. The use of compounds inhibiting the activation of the nuclear factor  $\kappa$ B (NF- $\kappa$ B), for the preparation of medications adapted for the treatment of malignant hemopathies and solid tumors, and for the prevention of the appearance or the treatment, of phenomena of resistance to cytotoxic molecules used in the scope of treatment of the above pathologies, appearing in patients treated with these molecules when the latter are adapted to activate NF- $\kappa$ B.
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2. The use of inhibitor compounds for the activation of NF- $\kappa$ B according to claim 1, for the preparation of medications adapted for the treatment of malignant hemopathies and solid tumors, in combination with one or several cytotoxic molecules usable in the scope of treatment of the above-mentioned pathologies and adapted to activate the NF- $\kappa$ B factor.
3. The use according to claim 1 or claim 2, of compounds inhibiting the activation of MF- $\kappa$ B connected specifically to the transmembranal receptors of the cytokines of class I in the cells of the organism, such as compounds selected from growth hormone or erythropoietin.
- Rub A1*
4. The use according to one of claims 1 to 3:
- of the human growth hormone, as obtained by extraction from hypophysary extracts, and purification,
- or of the recombinant human growth hormone as encoded by the nucleotide sequence SEQ ID NO 1, or by any nucleotide sequence derived from this latter by degeneracy of the genetic code and being
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nevertheless capable of encoding for the human growth hormone whose sequence in amino acids is represented by SEQ ID NO 2, said growth hormone being obtained by transformation of appropriate cells with the help of vectors containing a nucleotide sequence as described, recovery of the recombinant protein produced by said cells, and purification,

- or of any peptide sequence derived by addition and/or deletion and/or substitution of one or several amino acids of the sequence SEQ ID NO 2,

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and preserving the property of human growth hormone of inhibiting the activation of NF- $\kappa$ B.

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5. The use according to one of claims 1 to 3:

- of recombinant human erythropoietin such as encoded by the nucleotide sequence SEQ ID NO 3, or by any nucleotide sequence derived from this latter by degeneracy of the genetic code and being nevertheless capable of encoding for human erythropoietin whose sequence in amino acids is represented by SEQ ID NO 4, said erythropoietin being obtained by transformation of appropriate cells with the help of vectors contained in a nucleotide sequence as described above, recovery of the recombinant protein produced by said cells, and purification,

- or any peptide sequence derived by addition and/or deletion and/or substitution of one or several amino acids of the sequence SEQ ID NO 4, and preserving the property of inhibiting the activation of NF- $\kappa$ B.

6. The use compounds inhibiting the activation of NF- $\kappa$ B according to one of claims 1 to 7, in combination with one or several

cytotoxic molecules adapted to activate the NF- $\kappa$ B factor, selected from:

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- cytokines,
  - anthracyclines including daunomycin, and dauxorubicin,
  - vinca-alkaloids, such as vinblastine and vincristine,
  - paclitaxel (or Taxel, DCI).
- Ref G1*

7. The use of compounds inhibiting the activation of NF- $\kappa$ B according to one of claims 1-6, characterized in that the dosage of the cytotoxic molecules used in combination with said compounds is about 2 to about 5 times less than the dosage of these same molecules used alone in the scope of treatment of malignant hemopathies and solid tumors.

8. Products containing a compound inhibiting the activation of NF- $\kappa$ B and a cytotoxic molecule adapted to activate the NF- $\kappa$ B factor, as a combined preparation for a simultaneous use, separately or over a long period of time for the treatment of malignant hemopathies and solid tumors.

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9. Product according to claim 8, characterized in that it comprises as a compound inhibiting the activation of NF- $\kappa$ B, a compound specifically binding to class I cytokine transmembrane receptors in the cells of the organism, selected particularly from growth hormone or erythropoietin.

*Ref A2*

10. Product according to claim 8 or 9, characterized in that it comprises:

- human growth hormone, such as obtained by the extraction from hypophysary extracts, and purification,

5 - or recombinant human growth hormone as encoded by the nucleotide sequence SEQ ID NO 1, or by any nucleotide sequence derived from this latter by degeneracy of the genetic code and being nevertheless capable of encoding for human growth hormone whose amino acid sequence is represented by SEQ ID NO 2, said growth hormone being obtained by a transformation of suitable cells with the help of vectors 10 containing a nucleotide sequence such as described above, recovery of the recombinant protein produced by said cells, and purification,

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- or any peptide sequence derived by addition and/or deletion and/or substitution of one or several amino acids of the sequence SEQ ID NO 2, and keeping the property of the human growth hormone of inhibiting the activation of NF- $\kappa$ B.

11. Product according to claim 8 or 9, characterized in that it comprises:

5 - recombinant human erythropoietin as encoded by the nucleotide sequence SEQ ID NO 3, or by any nucleotide sequence derived from this latter by degeneracy of the genetic code and being nevertheless capable of encoding for human erythropoietin whose sequence in amino acids is represented by SEQ ID NO 4, said erythropoietin being obtained by transformation of suitable cells with the help of vectors containing a nucleotide sequence as described above, recovery of the recombinant 10 protein produced by said cells, and purification,

- or any peptide sequence derived by addition and/or deletion and/or substitution of one or several amino acids of the sequence SEQ

ID NO 4, and keeping the property of human erythropoietin of inhibiting the activation of NF- $\kappa$ B.

*but a2*

12. Product according to one of claims 8 to 11, characterized in that it comprises as cytotoxic molecule susceptible of activating the NF- $\kappa$ B factor, any molecule selected from the following:

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- cytokines,
  - anthracyclines including daunomycin and dauxorubicin,
  - vinca-alkaloids, including vinblastine and vincristine,
  - paclitaxel (or Taxol, DCI).

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